

CICONIA ALBA, Bechst. White Stork. Arab. "Nájeh."

I did not see this bird myself; but Captain Palmer, R.E., saw a large flight of birds, which I have no doubt were of this species, in Wády Feirán, March 5th. Mr. E. H. Palmer also saw a flight. "Nájeh" means literally, "a white sheep."

**EGRETta GARZETTA*, Linn. Little Egret.

Shore of the Gulf of Akabah.

PHALACROCORAX CARBO (L.). Common Cormorant.

Very common in the bay near Tor, and along the coast of the Red Sea.

LARUS GELASTES, Licht. Slender-billed Gull.

This Gull is common in the bay at Tor.

CHROICOCEPHALUS RIDIBUNDUS (L.). Black-headed Gull.

CHROICOCEPHALUS MELANOCEPHALUS (Natterer).

I was able, through my glass, to distinguish both this and the preceding species, which were both common in the bay at Tor.

II.—On the Sun-birds of the Indian and Australian Regions*.

By ARTHUR Viscount WALDEN, P.Z.S. &c.

(Plate I.)

ALL those Sun-birds which are not found in the Ethiopian region form the subject-matter of this paper. The geographical range of the group extends, on the mainland of Asia, from the mouth of the Indus, in the west, to the shores of the Chinese Sea in the east. It includes, besides Ceylon, nearly all, if not all, the islands of the Indo-Malayan and Austro-Malayan subregions. Its most northern and north-western limit is reached in the neighbourhood of Kotegurgh, on the Sutlej, and its most south-

* The term "Indian Region" is here used in a purely geographical sense. As a zoogeographical expression, I find difficulty in recognizing its value; for the avifauna of continental Asia, south of the middle range of the Himalaya and of its eastern extensions, may be roughly said to consist of two distinct groups of birds—the one inhabitants of the mountains and their slopes, the other inhabitants of the plains. The first, in whatever part of India proper they occur, are allied to Indo-Malayan forms: the last are closely connected with African species or genera.

ern in the colony of Queensland. The only large islands within this area where no Sun-birds have as yet been discovered, are the Indo-Malayan island of Formosa and the Austro-Malayan islands of New Britain and of the Salomans.

The total number of species is about forty, and they are divisible into three natural genera (*Arachnechthra*, *Æthopyga*, *Chalcostetha*) and two smaller groups, among the members of which the affinities are not so evident (*Nectarophila* and *Anthreptes*). *Arachnechthra* is the most largely diffused, contains the greatest number of species, many nearly allied, but well defined, includes the most widely spread of all the Eastern Sun-birds, *A. asiatica*, and is generically the most closely connected with the Ethiopian *Nectariniæ*, through *Cinnyris osea*, Bp., a species I am strongly inclined to consider congeneric. Being a dominant group, we find it universal in the distribution of its members. Besides occurring in Ceylon, in India, and in the Indo-Chinese countries, they are spread throughout the two subregions Mr. Wallace has so well defined, the Indo-Malayan and Austro-Malayan, and overlap the range of all the other genera. *Arachnechthra* is represented in Sindh, as well as in New Guinea, in Ceylon, in Queensland, in the Philippines, and in the Sunda Islands. *Æthopyga* is confined to a more restricted range. It is typical of the Indo-Malayan subregion, in which I comprise the lower Himalayan ranges and their Terai, from western Nipaul to the bend of the Sampo, the mountainous regions to the east and south-eastward of that river, and of India generally, as well as the countries of Assam, Sylhet, Aracan, and Tenasserim. One species has found its way to, or has been left behind in, the highland jungles of Central and Western India; and another is to be met with beyond the Indo-Malayan frontier, in Celebes. In Ceylon the group is unrepresented. *Chalcostetha*, with one exception, is a purely Austro-Malayan genus, the exception, *C. insignis* (Jard.), an Indo-Malayan form, presenting affinities in several directions. The genus *Anthreptes* consists of one species, which perhaps ought not to be separated from *Nectarophila*. It occupies almost the entire Indo-Malayan area, and passes over into Celebes and the Sula Islands. In *Nectarophila* we find two

Indian and two Indo-Malayan forms, the two Indian, *N. zeylonica* and *N. minima*, being nearly related, one Indo-Malayan, *N. brasiliensis*, showing affinities to *Chalcostetha*, a fourth, *N. sperata*, being perhaps a Philippine representative of *N. zeylonica*, and the fifth, *N. grayi*, representing *N. brasiliensis* in the Island of Celebes.

The Indo-Malayan subregion is the richest in species; and the greatest number are to be found concentrated in the island of Sumatra, the metropolis also of *Arachnothera*. In the plains and lowlands of India proper only three or four species occur. Ten or eleven specific forms are peculiar to the Australian region, including two Indo-Malayan generic forms, besides which two Indo-Malayan species have partially invaded its frontier. The remaining *Nectariniæ* all belong to the Indo-Malayan subregion, as I extend it. After Sumatra, which possesses nine, comes Java with seven, and Borneo with five or six species; while the Malay peninsula seems equally rich with Sumatra, if authors are exact in the habitats they assign. Ceylon possesses four, the same number and the same species as are found in Southern India. A few species more than I shall enumerate occur in our books, but have not been since recognized. The majority of them are either described from manufactured specimens, or else are badly described species belonging to other groups such as *Trochilus*. One, if not two, seem to be *bonâ fide* species, as, for instance, *Cinnyris leucogaster*, Vieill., from Timor. Some species perhaps still remain to be discovered in the interior of Borneo, in New Guinea and its islands, in the Philippines, and in the mountainous districts of Siam and Cochin China; yet the materials we already possess are sufficiently extensive to permit of generalization, while the nomenclature of the species known is in a state of confusion which will justify, I trust, this imperfect attempt to introduce order.

1. ARACHNECHTHRA ASIATICA, (Lath.), Ind. Orn. i. p. 288, no. 22, "India," ♂ adult. (1790), descr. orig.

? *Certhia cirrhata*, Lath., tom. cit. p. 299, no. 62, "Bengala" (1790), ex Lath. Synop. Suppl. i. p. 132, no. 57, descr. orig.

C. chrysoptera, Lath., tom. cit. p. 299, no. 64, "Bengala"

(1790), ex Lath. Synop. Suppl. i. p. 133, no. 59, descr. orig.

C. maharattensis, Lath., Ind. Orn. Suppl. p. 36, no. 3, "India" (1801), ex Lath. Synop. ii. p. 164, no. 20, "Mahratta country," descr. orig.

C. saccharina, Shaw, Gen. Zool. viii. i. p. 258 (1811), ex Lath., nec *Cinnyris saccarhina*, Steph. *op. cit.* xiv. p. 233.

Purple Indian Creeper, Edwards, Gleanings, ii. p. 116, t. 265, fig. inf., descr. orig.

Violet-breasted Creeper, var. B, Lath., Gen. Hist. iv. p. 248, no. 41, ex Edwards.

Le Souï-manga violet, Audeb. & Vieill.*, Ois. Dor. ii. p. 31, t. 12, ♂ adult. "Malabar," descr. orig.

Cinnyris iodeus, Less., Dict. Sc. Nat. l. p. 24 (1827), ex Audeb. & Vieill. t. 12.

Certhia nitens, Hermann, Obs. Zool. p. 137, ♂ adult. "Tranquebaria" (1804), descr. orig.

Le Souï-manga à cravate bleue, Audeb. & Vieill., Ois. Dor. ii. p. 53, t. 31; patr. non indic. ♂ adolese.

Cinnyris cyaneus, Vieill., Enc. Méthod. Orn. p. 599, no. 56 (1823), descr. orig.

C. orientalis, Frankl., P. Z. S. 1831, p. 122, no. 105, ♂ adult. "India centr.," descr. orig.

C. curruccaria (L.), Sykes, P. Z. S. 1832, p. 98, no. 133, "Poona."

C. epauletta, Hodgs., Ind. Rev. ii. p. 272, ♂ adult. "Nipaul" (1837), descr. orig.

C. strigula, Hodgs., l. c. "Nipaul" (1837), descr. orig.

Nectarinia maharattensis, (Lath.), Jard., Nat. Lib. xii. pp. 222, 264, t. 24, ♂ adult. "India."

Arachnechthra curruccaria, (L.), Cab. Mus. Hein. i. no. 572; Blyth, Ibis, 1866, p. 364, no. 234, nec Linn.

Eastern Creeper, part., Lath., Gen. Hist. iv. p. 232, no. 21, "India."

Hab. Throughout all India, the greater part of the west of Central India, the North-west Provinces, Sindh, North Burmah, top of the Neilgherries (Jerdon); Ceylon (Layard); Nipaul

* The folio edition is quoted.

(Hodgs.); Kotegurgh in winter, Rampoor (Stoliczka); Maunbhoom (Beavan); Almorah (Brooks); Candeish (Mus. nostr.); Arracan, Calcutta (Blyth).

The extreme western and eastern limits of this dominant species have not been as yet determined. When not in nuptial dress the males cast off all the black body-feathers except those on the mesial line. On this subject, which has given rise to much speculation, Mr. Blyth's statement (Journ. Asiat. Soc. Beng. xii. p. 978) that the females, when breeding, assume the full dress of the male, has been denied by Capt. Beavan (Ibis, 1865, p. 416). An individual, either of this species or else of some as yet unrecognized *Arachnechthra*, in the non-breeding plumage just described, formed the subject of Brisson's *Certhia philippensis grisea* (Orn. iii. p. 615, t. xxx. f. 3). It cannot have been an example of *A. lotenia*; for the length of the bill is stated to have been 9 lines. Nor can it have belonged to any of the other known *Arachnechthra*, because the wing-coverts of Brisson's bird were of a polished steel-violet colour. The type-specimen, according to Brisson, was sent to M. Aubry from the Philippines. No binomial title has ever been given to Brisson's species; but, most unfortunately, Linnæus added Brisson's title* as a synonym to his *Certhia currucaria*, the name he bestowed on a female or young male of either *Nectarophila zeylonica* or else of *A. asiatica*. Linnæus's type was given to him by Governor Loten, who procured it in Ceylon. Thus runs the diagnosis:—" *C. olivacea, subtus flavescens*," &c.; and then "*subtus a gula ad anum flavescens*" is added. No mention is made of the central dark stripe, nor of metallic wing-coverts. Brisson's description therefore can in no way help us to determine the true *C. currucaria*, L.; yet every author, from Montbeillard down to the present time, has so used it. The word *currucaria* has even come to be an ornithological term; for we find, in the 'Birds of India,' Dr. Jerdon using this

* Linnæus omitted the word "*grisea*," which makes Brisson's title read *C. philippensis*, a different species, on which Linnæus founded his *C. philippina*. Linnæus, however, quoted the page, plate, and figure correctly; yet he added the number 2, the number of the figure which represents *C. philippensis* on the same plate with *C. philippensis grisea*. This does not alter the main fact that the Linnæan diagnosis of *C. currucaria* was original.

phrase (i. p. 372),—"a specimen has the *currucaria* or winter plumage of the last." The Linnæan description agrees best with the female of *N. zeylonica*; and to that species I have referred *C. currucaria*. Gmelin's diagnosis is a reprint of that of Linnæus; but in his additional remarks he copies from Brisson. Latham (Ind. Orn.), under *C. currucaria*, describes nothing but Brisson's bird.

Certhia asiatica, Lath., was described from a drawing of an Indian example by Major Roberts. I have never met with any Indian *Arachnechthra* in the plumage described under *C. cirrhata*, Lath., stated by Shaw to have been described from one of Lady Impey's drawings. *C. chrysoptera*, Lath., was described from a drawing in which the yellow axillaries were made to look like wing-coverts. *C. strigula*, Hodgs., was founded on a male in postnuptial dress. The dark sanguine pectoral band which marks the lower limit of the metallic pectoral plumage is not always so evident in this Sun-bird as in *A. lotenia*. Reichenbach (Handb. p. 295) separates Tenasserim individuals under Latham's specific name of *mahrattensis*. I am unacquainted with the Tenasserim race; but, if distinct, it must have a new title.

2. ARACHNECHTHRA LOTENIA, (L.), S. N. ed. xii. i. p. 188, no. 29, "Zeylona," ♂ adult. (1766), descr. orig.

Certhia polita, Sparrm., Mus. Carls. fasc. iii. t. 59, patr. non indic., ♂ adult. (1788), descr. orig.

? *Avis zeylonica omnicolor*, Seba, Thes. i. p. 110, t. 69.

Certhia omnicolor, Gm., S. N. i. p. 483, no. 53 (1788), ex Seba.

? *Sickle-billed Creeper*, Lath., Gen. Synop. i. pt. ii. p. 705, no. 6, patr. non indic., ex Mus. Brit., descr. orig.

Certhia falcata, Gm., tom. cit. p. 470, no. 30 (1788), ex Lath.

Le Sucrier bronzé, Le Vaill., Ois. d'Afr. vi. p. 170, t. 297, f. 1, ♂, "Africa"!

Cinnyris ceneus, Vieill. N. Diet. d'Hist. Nat. xxxi. p. 495 (1819), ex Le Vaill. t. 297, f. 1.

Purple Indian Creeper, Edw., Gleanings, ii. p. 116, t. 265, f. sup. ♂ adult., patr. incert.

Certhia purpurata, Shaw, G. Zool. viii. pt. i. p. 201 (1811), ex Edw. t. 265, f. sup.

Le Soui-manga pourpre, Audeb. & Vieill., Ois. Dor. ii. p. 29, t. 11, ♂ adult., patr. non indic., descr. orig.

Cinnyris purpuratus, Vieill., N. Dict. d'Hist. Nat. xxxi. p. 509 (1819), ex Audeb. & Vieill. t. 11.

? *Le Soui-manga à cravate violette*, Audeb. & Vieill., Ois. Dor. ii. p. 35, t. 15, patr. non indic., ♂ adolesc.

Nectarinia lotenia (L.), Jard., Nat. Lib. xxxvi. pp. 220, 263, t. 23, ♂ adult., "India."

Hab. Malabar, Carnatic, Madras, not observed elsewhere in India (Jerdon); Ceylon (Layard); Deccan (Moore).

Described from a Ceylon specimen obtained by Governor Loten. Linnæus having carelessly added the *Certhia madagascariensis viridis*, Briss., as a synonym, *lotenia* passed until recently as the title of the Madagascar bird, *N. ungaladiana*, (Shaw)*. Seba can only have meant this Ceylon species. Reichenbach (Handb.) enumerates *Cinnyris æneus*, Vieill., as a good species from South Africa!

A. lotenia, though the type of *Arachnechthra*, Cab., is isolated from the rest of the species of that genus by the great development of the bill, a speciality of structure which may account for its restricted geographical range.

3. *ARACHNECHTHRA FLAMMAXILLARIS*, (Blyth), Journ. Asiat. Soc. Beng. xiv. p. 557 (1845).

Nectarinia jugularis, Vieillot (Jard.), ap. Blyth, *op. cit.* xii. p. 979, ♂, ♀, "Tenasserim."

Hab. Arracan (Blyth); Moulmein, Kyodan, Salween valley (Walden, P. Z. S. 1866, p. 541); Pinang (Moore, Cat. E. I. C. Mus. ii. no. 1080); Pinang (Mus. nostr.); Siam (Gould, P. Z. S. 1859, p. 151).

The yellow under-plumage is much paler than in *A. pectoralis*, (Horsf.). The superciliary streak is very faint in the male, but more prominent in the female. The origin assigned to the specimen marked "China, very rare," in the Derby Museum at

* The oldest title for this Madagascar species appears to be *Certhia notatus* (!), P. L. S. Müller, *Natursyst. Anhang*, p. 99, no. 32 (1776), ex Buff. Pl. Enl. 575, f. 2, 3.

Liverpool, and identified with this species by Mr. Blyth (Ibis, 1865, p. 30), must be regarded as doubtful (*conf.* Swinhoe, Ibis, 1866, p. 129). This species has yet to be compared with *A. jugularis*, from the Philippines, but appears to differ at least in possessing a maroon transverse pectoral band.

4. *ARACHNECHTHRA RHIZOPHORÆ*, Swinhoe, Ann. & Mag. Nat. Hist. 4th ser. iv. p. 436, "Hainan" (1 Dec. 1869).

Closely allied to *A. flammixillaris*; but possessing a steel-blue frontal patch.

5. *ARACHNECHTHRA PECTORALIS*, (Horsf.), Tr. Linn. Soc. xiii. p. 167, ♂, ♀, "Java" (1820), descr. orig.

Nectarinia eximia, Tem., Pl. Col. livr. 23, t. 138. f. 1, 2, ♂, ♀, "Java" (July 26, 1823), descr. orig.; S. Müller & Schl., Verh. Nat. Gesch. Ned. Overz. Bez. Zool. Aves, p. 61, no. 10 [1846*].

Cinnyris ornatus, Less., Diet. Sc. Nat. vol. 1. p. 15, ♂, ♀ (1827), ex Temm. t. 138, f. 1, 2.

Cinnyris luteoventer, Less., Tr. p. 298, no. 29, ♂, "Sunda Islands" (1831), descr. orig. (*fide* Pucheran, Rev. Mag. Zool. 1853, p. 488).

Nectarinia pectoralis, Horsf., Jard., Nat. lib. xxxvi. pp. 226, 266, t. 25. f. 1, ♂, "Java."

Hab. Java, Sumatra, inland as well as on the coast, in enclosures and bushes, never on the mountains (Müller); Nicobars (Blyth, J. A. S. B. 1846, p. 370; Von Pelzeln, Novara, Aves, p. 52); Andamans (Tytler, Ibis, 1867, p. 322); Banjermassing (Motley *fide* Sclater); Lombok, Flores (Wallace); Labuan (Motley & Dillwyn).

Both Blyth and Moore state that this species is found in the Malay Peninsula. I have never seen an authentic Malayan spe-

* [Mr. G. R. Crotch, whose useful determination of the dates of publication of the several *livraisons* of the 'Planches Coloriées' we have already printed (Ibis, 1868, pp. 499, 500), has kindly informed us that the ornithological plates in the 'Zoologie' of the great Dutch work cited in the text, with the exception of those representing the species of *Pittæ* (published in 1839-40) appeared in 1846; but the descriptions of the species of *Nectariniæ* in the volume containing the 'Land en Volkenkunde' appeared in 1843. We have accordingly added those dates to Lord Walden's text.—ED.]

cimen; but I do possess an example of *A. flammixillaris* (Blyth) from Pinang. Sumatran and Javan individuals in my collection are undistinguishable; those from Flores and Lombok are much larger, the bill being fully .125 in. and the wing .25 longer. The female is olive-green above, and sulphur-yellow underneath. The pectoral and abdominal plumage of the male is gamboge-yellow, as in *A. frenata* (Müller). No maroon band separates the steel-blue plastron from the yellow breast. A Lombok male in my collection has a longitudinal metallic blue stripe from the chin to the breast, the forehead and rest of the plumage being the same as in the female. Is this the postnuptial attire? The orange axillaries are not to be detected. Reichenbach (Handb. no. 722) erroneously refers this species to Audebert's and Vicillot's 29th plate.

6. ARACHNECHTHRA FRENATA (S. Müller), Verh. Nat. Gesch. Ned. Overz. Bez. Land- en Volkenk. p. 173, note, ♂, ♀, "New Guinea, Menado" [1843]; *op. cit.* Zool. Aves, p. 61, t. 8. f. 1, ♂ adult. [1846].

Nectarinia australis, Gould, P. Z. S. 1850, p. 201, "North Australia."

Hab. Batchian, Ternate, Aru Islands, New Guinea, Islands of Torres Straits (G. R. Gray); Sula Islands, Celebes, Mysol, Moluccas (Wallace); Kaisa Island (Wallace, Mus. nostr. ♀). *N. australis*, North-east coast of Australia (J. Macgillivray).

Differs from *A. pectoralis*, (Horsf.), by wanting the metallic-blue frontal patch, by having the yellow supercilium and yellow cheeks more strongly marked, and by being larger even than Lombok examples of that species. In all other characters the two species are identical. An example of a female has the under-plumage quite as deep yellow as the male, it likewise possesses a yellow supercilium. After comparing a considerable series of Cape-York examples of *N. australis*, Gould, of both sexes, with authentic individuals of *N. frenata*, Müller, I have come to the conclusion that they are not specifically separable. Mysol, Celebes, Aru, and Sula examples appear to have the tips of the outer rectrices of a deeper yellow than in Cape-York individuals. A Sula specimen, in the British Museum, has the bill consider-

ably longer than in those from all other localities. Otherwise it does not differ.

7. *ARACHNECHTHRA JUGULARIS*, (L.), S. N. ed. xii. i. p. 185, no. 7, ♂ adolesc., "*Hab. in Philippinis*" (1766), ex Briss. no. 6.

Certhia philippensis minor, Briss., Ornith. iii. p. 616, no. 6, t. 32. f. 5, ♂ adolesc., "*Ins. Philipp.*," descr. orig. (1760).

Certhia philippensis olivacea, Briss., *tom. cit.* p. 623, no. 10, t. 34. f. 4, "*Ins. Philipp.*" ♂ adult., descr. orig. (1760).

Grimpereau olive des Philippines, Buff., Pl. Enl. t. 576. f. 4, ♂ adult., ex Briss. no. 10 (?).

Certhia tricolor, P. L. S. Müller, *Natursyst. Anhang*, p. 99, no. 31, ♂ adult., "*Philippines*" (1776), ex Buff. t. 576. f. 4.

Petit Grimpereau des Philippines, Buff., Pl. Enl. t. 576. f. 3, ♂ adolesc., ex Briss. no. 6 (?).

Premier Grimpereau de l'Isle de Luçon, Sonn., *Voy. Nouv. Guin.* p. 63, t. 30. f. A, ♂ adult., descr. orig. (1776).

Second Grimpereau de l'Isle de Luçon, Sonn., *l. c.* f. B, ♀ vel ♂ juv., descr. orig.

Certhia quadricolor, Scop., *Faun. et Fl. Insub.* ii. p. 91, no. 67 (1786), ex Sonn. t. 30. f. A, B.

Certhia jugularis, L., part., *Gm. S. N.* i. p. 474, no. 7 (1788), ex Linn.

Certhia gularis, Sparrm., *Mus. Carls. fasc. iv. t. 79*, "*Insula Martinique*" (!), ♂, descr. orig. (1789).

Cæreba gularis, (Sparrm.), G. R. Gray, *Gen.* i. p. 101, sp. 4; Bp., *Consp. Av.* i. p. 400, sp. 4, "*Amer. Merid.*" (!)

Certhia currucaria, L., var. β , Lath. *Ind. Orn.* i. p. 286, ♂ adolesc., ex Linn. no. 7.

Cinnyris zeylonicus, Vieill., *N. Dict. d'Hist. Nat.* xxxi. p. 507, nec Linn.

Le Souï-manga à gorge bleue, Audeb. & Vieill., *Ois. Dor.* ii. p. 51, t. 29, ♂ adult., "*Luçon.*"

Nectarinia zeylonica, Kuhl, *Nomina System.*, p. 10, no. 576, ex Buff. Pl. Enl. t. 576. f. 4, nec Linn.

Nectarinia jugularis (Vieill.), *Jard., Nat. Lib.* xiii. p. 228, t. 25. f. 2, ♂ adult., "*Philippines*," *op. cit.* p. 267.

Certhia philippensis, part., Meyen, Reise, Theil iii. p. 206 (1834).

Certhia sperata, L., ♀, Meyen, *tom. cit.* p. 207, ♂ adult., "Manilla," nec Linn.

Certhia philippensis, Briss., *tom. cit.* p. 613, no. 4, t. 30. f. 2, ♀ vel ♂ juv., "Ins. Philipp.," descr. orig. (1760).

Certhia philippina, L., S. N. ed. xii. i. p. 187, no. 2, "Philipp." (1766), ex Briss., no. 4(?).

Nectarinia pectoralis, Horsf., ap. G. R. Gray, Genera, iii. App. p. 33, ex Buff. Pl. Enl. 576. f. 4, nec Horsf.

Nectarinia jugularis, (L.), Von Martens, J. für Orn. 1866, p. 13, no. 49; *Id.* Preuss. Exped. Ost-Asien, p. 189.

Hab. Philippine Islands (Jardine, Von Martens).

Brisson described three species of *Certhia* from the Philippines, which appear to have all belonged to the present species. His "no. 10," collected by Poivre, was founded on the adult of an undoubted Philippine *Nectarinia*, a species since referred by common consent, except Reichenbach's, to *C. jugularis*, L. To this species of Brisson no binomial title has ever been directly given by any author. Linnæus identified it with his own *C. zeylonica*, one of those blunders of his which have since led to so much confusion. Brisson's species "no. 6" was described from a Philippine specimen in Aubry's cabinet; on this Linnæus founded his *C. jugularis*. From Brisson's original account, we may conclude that the type was either a young male of his "no. 10," or else an adult male of that species in postnuptial plumage. Species "no. 4" was described by Brisson from a Philippine individual also in Aubry's collection. Its identification is rendered uncertain by our being still totally unacquainted with authenticated females of the only two Sun-birds actually known to inhabit the Philippines, *Nectarophila sperata* and *A. jugularis*, or with either of these species in young male plumage before the metallic feathers appear. But if the title *C. philippina*, L., was founded on species "no. 4" of Brisson, it must merge in either *N. sperata* or *A. jugularis*; and therefore the identification is of little importance. I say, if founded on Brisson's species "no. 4," as about this there is some doubt; for, while Linnæus cites Brisson's diagnosis only, his own contains a character not

found in Brisson's account. It is thus expressed:—"rectricibus intermediis 2 longissimis." Brisson's words are, "*rectricibus binis intermediis nigris.*" Linnæus placed *C. philippina* third in a list of four species, which certainly do all possess elongated central rectrices, *C. pulchella*, *C. famosa*, and *C. violacea*. His diagnosis of all four species begins with the phrase above quoted. They are the only species Linnæus described thus characterized, which looks as if he intentionally grouped the four together on account of this character. Yet the remainder of the diagnosis of *C. philippina* agrees with that of Brisson's "no. 4;" and in the absence of evidence of its being original, it is most likely that Linnæus committed an error when compiling, and that thus the word "*longissimis*" slipped from his pen instead of "*nigris.*" Should it be shown that the Linnæan species did possess elongated middle rectrices, it is clear that it was not an *Arachnechthra*.

Sparrman's plate represents either a male moulting into postnuptial plumage, or else a male assuming full nuptial dress. Prof. Sundevall, in his critical exposition of Sparrman's 'Museum Carlsonianum' (K. Vet. Akad. Handl. 1857) states that the type is a Javan bird; but this must be a mistake, unless it be a young example of *A. pectoralis* (Horsf.) with the frontal patch undeveloped, in which case Horsfield's title would be superseded*. Figure B, in Sonnerat's plate, may have been taken from a female or very young male of *C. sperata*, L. Figures 3 and 4 of the 'Planches Enluminées' no. 576, were perhaps drawn from the original Brissonian type-specimens in the collection of De Réaumur and Aubry, or else coloured after Brisson's description. P. L. S. Müller, clearly, describes from figure 4 of the plate just mentioned, although he does not indicate the source whence he obtained his description, beyond giving Buffon's name. Montbeillard's account (Hist. Nat. Ois. v. pp. 506-510) is not original, but copied from Brisson, the dimensions included.

According to Sir W. Jardine's description of this species, the

* Do all the Sun-birds of this group, after breeding, doff their metallic feathers, except on the mesial line, in the same manner as *A. asiatica* and *A. lotenia*? If they do, *C. gularis*, Sparrm., may be *A. pectoralis* (Horsf.), in partly postnuptial plumage.

only full and trustworthy account that has yet been published, taken from a Philippine specimen obtained by Mr. Cuming, the steel-blue plastron is intensely dark on the centre, but does not extend so far down as in *A. pectoralis*, (Horsf.). Meyen, most unaccountably, regarded the Philippine *Arachnechthra* as the female of *C. sperata*, L.

8. *ARACHNECHTHRA ZENOBIA*, (Less.), Voy. Coq. Zool. i. p. 679, no. 104, t. 30. f. 3, ♂ adult., "Soya Mountains, Amboyna," (1826), descr. orig.

Cinnyris clementiae, Less., Dict. Sc. Nat. l. p. 18 (1827), ex Less. *l. c.*

Nectarinia zenobia, (Less.), S. Müller & Schl., Verh. Nat. Gesch. Ned. Overz. Bez. Zool. Aves, p. 60 [1846].

?*Le Sucrier bronzé*, Le Vaill., Ois. d'Afr. vi. p. 170, t. 297. f. 2, "Africa"!

Chalcostetha zenobia, (Less.), Reichenb., Handb. p. 286, no. 663.

Hab. Amboyna, not uncommon among the farm enclosures and sparsely covered heights (Müller); Ké, Bouru, Amboyna, Ceram (Wallace); Dorey, New Guinea, Gilolo (G. R. Gray).

Lesson refers *C. clementiae* to figure 2 of his plate above cited, which represents *Dicaeum erythrothorax* ♀. Bonaparte (Consp. i. p. 409) cites figure 1 of the same plate, which represents *D. erythrothorax* ♂. If the specimen from which Le Vaillant figured his alleged female of *Le Sucrier bronzé* was not manufactured, it must have been one of *A. zenobia*, as suggested by M. J. Verreaux to Prof. Sundevall in his remarks on Le Vaillant's bird (no. 297, K. Vet. Akad. Handl. 1857). A specimen in my possession, obtained from a large collection of birds sent from Queensland, and consisting of authenticated Queensland species, represents a form exactly similar to Ceram examples of *A. zenobia* (Less.), excepting that it is smaller in its principal dimensions, and that it possesses a steel-blue frontal patch. Thus this alleged Queensland bird bears to *A. zenobia* the same relation that *A. pectoralis* (Horsf.) does to *A. frenata* (S. Müller). Can it be the one mentioned by Mr. Ramsay as *Nectarinia australis* (Ibis, 1865, p. 85, no. 32)?

9. *ARACHNECHTHRA HYPOGRAMMICA*, (S. Müller), Verh. Nat.

Gesch. Ned. Overz. Bez. Land- en Volkenk. p. 173 note, "Sumatra, Borneo" [1843]; *Id.*, *op. cit.* Zool. Aves, p. 63, t. 8. f. 3, ♂ [1846].

Anthreptes macularia, Blyth, J. A. S. B. xi. p. 107, ♀, "Malacca" (1842).

Anthreptes nuchalis, Blyth, *op. cit.* xii. p. 980, ♂, "Singapore" (1843).

Hypogramma nuchalis, (Blyth), Reichenb. Handb. p. 314, no. 740.

Hab. Sumatra, Borneo, in the plains as well as in the mountain forests (Müller); Singapore (Blyth); Pinang (Moore).

The metallic plumage is restricted to the nape, lower back, and upper tail-coverts. The Singapore, Pinang, and certainly Borneo habitat of this species require confirmation.

10. *ARACHNECHTHRA SIMPLEX*, (S. Müller), Verh. Nat. Gesch. Ned. Overz. Bez. Land- en Volkenk. p. 173 note, ♂ ♀, "Sumatra, Borneo" [1843], descr. orig.; *op. cit.* Zool. Aves, p. 62, t. 8. f. 4, ♂ [1846].

Nectarinia frontalis, Blyth, J. A. S. B. xiv. p. 558, ♂, "Singapore" (1845), descr. orig.

Arachnoraphis simplex, (Müller), Reichenb., Handb. no. 736.

Hab. Sumatra (Müller); Singapore, Malayan Peninsula (Blyth, Cat. Mus. Calc. no. 1362).

In the zoological part of the Dutch work cited, Müller says that this Sun-bird is only found in Sumatra, having previously stated that it also inhabited Borneo. For its Malaccan habitat we have Mr. Blyth's authority. I have never met with a specimen from the Malay Peninsula. It is possible that Mr. Blyth's Singapore type came from Sumatra. This species forms another most interesting link in the chain of affinities which unite the members of the natural group *Arachnechthra*. In it the metallic plumage is confined to the frontal region, the rest of the plumage being soberly coloured as in the female.

11. *ARACHNECHTHRA*? *FLAVIGASTRA*, (Gould), P. Z. S. 1843, p. 109, "New Ireland;" *Id.* Voy. Sulphur, Zool. p. 43, t. 24.

Arachnoraphis flaviventris, part., Reichenb., Handb. p. 313, no. 735.

"A single specimen only was obtained;" yet two figures are given in the plate cited! The upper figure agrees with the diagnosis. The lower differs by having the rump yellow. It is not stated whence the subject of the lower figure was procured. This species does not appear to have been since obtained. The figure resembles a female of *A. frenata* (Müll.). Reichenbach (*l. c.*) has mixed up *Arachnothera flavigastra*, (Eyton, P. Z. S. 1839, p. 105), from Malacca, with the New-Ireland bird, and united them under the title cited!

12. *ARACHNECHTHRA SOLARIS*, (Temm.), Pl. Col. livr. 58, t. 347. f. 3, "Amboyna," ♂, May 21, 1825; S. Müller & Schl., Verh. Nat. Gesch. Ned. Overz. Bez. Zool. Aves, p. 60, t. 8. f. 5, ♀ [1846].

Hab. Timor, Poeloe Samauw (Müller); Timor, Flores (Wallace).

Müller (*l. c.*) has shown that Temminck was in error when he stated that his type-specimens came from Amboyna. This species is a somewhat isolated form. The metallic part of its plumage is green, as in *N. osea*, and the flame-colour of the axillaries is diffused over the entire under surface.

13. *ÆTHOPYGA MILES*, (Hodgs.), Ind. Rev. ii. p. 273, descr. orig., ♂, ♀, et juv., "Nipaul" (1837).

Certhia goalpariensis, Royle, Ill. Him. Bot. ii. t. 7. f. 1, ♂ adult., "Deyra Doon" (1839).

Cinnyris labecula, McClell., P. Z. S. 1839, p. 167, ♂ adult., "Assam," descr. orig.

Nectarinia goalpariensis, Royle, Jard., Nat. Lib. xxxvi. pp. 230, 267, t. 27, ♂ adult., "Nipaul;" Blyth, *partim.*, Cat. Mus. Calc. no. 1351.

Goulpourah Creeper, Lath., Gen. Hist. iv. p. 221, t. 74, "Goulpourah," ♂ adult.

McClelland's title is here added as a synonym on the authority both of Blyth (*l. c.*) and of Moore (Cat. E. I. Mus. ii. p. 732); yet no mention is made in McClelland's diagnosis of the yellow rump. Moulmein and Tippera examples in my collection are smaller than those from the Deyra-Doon and from Nipaul. From Tippera, wing 2.12, tail 2.72, bill .57; from the Deyra-Doon, wing 2.18, tail 3.18, bill .6. The Moulmein specimen is still

smaller. The middle pair of rectrices are steel-blue, not steel-green. The lower back of a much deeper yellow. In both, the metallic cap is confined to the crown, and does not descend the nape as in the Deyra-Doon bird. The geographical range of *Æ. miles* cannot be defined with accuracy until the exact limits of *Æ. vigorsii* are ascertained, the specific value of *Æ. seheriæ* determined, and the variation that *Æ. miles* itself undergoes in the widely-separated localities it is said to inhabit have been investigated.

14. *ÆTHOPYGA VIGORSII*, (Sykes), P.Z.S. 1832, p. 98, no. 134, ♂ adult., "Dukhun;" Gould, Birds of Asia, pl. 26.

Cinnymis concolor, Sykes, l. c. no. 137, ♀.

? *Nectarinia seheriæ*, Tickell, Journ. Asiat. Soc. Beng. ii. p. 577, ♂ adult., "Seheria" (1833), descr. orig.

Hab. Inhabits only the lofty trees of the dense woods of the Ghauts (Sykes); Bustar country (Jerdon).

Dr. Jerdon suggests that the Ghauts referred to by Colonel Sykes are the Mahableschwur Hills. It is a most rare bird in collections, to be distinguished (*fide* Moore, *op. cit.*) from the last "by the small crescent of brilliant metallic blue on the ear-coverts." Mr. Moore states as a differential character "the light yellow striæ which intersect the scarlet of the breast;" but whether they be found in fully adult birds is an open question. Until examples from Borabhoom and its vicinity are examined, it cannot be decided whether the type of *N. seheriæ* represents a species distinct from *Æ. miles* or from *Æ. vigorsii*. It must be rare in that part of India; for Captain Beavan failed to obtain or even see it.

15. *ÆTHOPYGA TEMMINCKI*, (S. Müller), Verh. Nat. Gesch. Ned. Overz. Bez. Land en Volkenk. p. 173, note, ♂, "Sumatra" [1843]; *op. cit.* Zool. Aves, p. 56, t. 8. f. 2 [1846].

Hab. In the dense forests on the mountains of Singalang, and in those of the eastern mountain ranges of Sumatra (Müller).

To be distinguished from all other kinds by the metallic violet circlet on the head, shaped somewhat like a horse-shoe. A lovely species.

16. *ÆTHOPYGA SIPARAJA*, (Raffles), Tr. Linn. Soc. xiii. p. 299, ♂ adult., "Sumatra" (1822), descr. orig.

Nectarinia mystacalis, Temm., Pl. Col. livr. xxi. t. 126. f. 3, ♂ adult., "Java" (Aug. 2, 1823); S. Müller & Schl., Verh. Nat. Gesch. Ned. Overz. Bez. Zool. Aves, p. 55, t. 9. f. 1, ♀, nest and egg.

? *Nectarinia lathamii*, Jard., *op. cit.* pp. 233, 268, ♂ adult., "India" (1842).

? *Ethopyga eupogon*, Cab. Mus. Hein. i. p. 103, note, "Malacca, Borneo" (1850-51).

Hab. Sumatra, Java, Borneo (Müller); Pinang (Moore); Banjermassing (Sclater).

The specific title given by Sir S. Raffles is the name, according to him, by which this species is known to the Malays; it means "King-Sucker" (*conf.* Müller, *l. c.* in note). No mention is made by either Sir Stamford or Temminck of its possessing a yellow lower-back, nor is this feature indicated in Temminck's plate; yet two Javan examples I have examined have the uropygium yellow as in the rest of the genus. Whether identically the same species inhabits all the localities above cited has yet to be shown. Banjermassing individuals are said to be doubtfully distinct (Sclater, P. Z. S. 1863, p. 220). Dr. Cabanis unites Bornean and Malaccan examples under the title quoted, and separates them from Sumatran individuals of *Æ. siparaja*. Banjermassing specimens which I have compared with Javan do not exhibit the differences on which Dr. Cabanis (*l. c.*) relies:—"nicht nur die Mitte der Stirn und des Scheitels, sondern die ganze Stirn und darüber hinaus violett blau glänzend." The types may have come from some other part of Borneo. Malaccan examples I have not seen. Dr. Salvadori (Ibis, 1865, p. 549) states that both *Æ. siparaja* and *Æ. eupogon* want the yellow rump, but does not state his authority.

17. *ÆTHOPYGA CHALCOPOGON*, Reich., Handb. Spec. Orn. part xi. p. 303, no. 708, t. 586. f. 3982-83, "Borneo" (Nov. 1, 1853).

Said, by its describer, to be closely allied to *Æ. goalpariensis*, i. e. *Æ. miles*. "The cap metallic green, but restricted to the fore part of the head. Upper tail-coverts and moustache glistening steel-blue. Middle tail-feathers edged with blue." The part of Borneo whence it came is not mentioned.

18. *ÆTHOPYGA FLAVOSTRIATA*, (Wallace), P. Z. S. 1865 (June 13), p. 478, t. 29, f. 2, ♂ adult. (?), Menado (Celebes).

? *Æthopyga lodoisia*, Salvadori, Ibis, 1865 (October), p. 548, patr. incert.

The yellow striæ on the throat-feathers of this species appear to exist in fully-plumaged males, and, while being a sign of adolescence in *Æ. miles*, accompany maturity in *Æ. flavostriata*. I add Dr. Salvadori's title, as a synonym, with some doubt, not having had an opportunity of examining his type. The *Æthopyga* (sp. non descr.) from Menado, in M. Verreaux's collection, with the abdomen almost black, mentioned by Dr. Salvadori (*l. c.*), cannot well be anything else than *Æ. flavostriata*.

19. *ÆTHOPYGA DEBRUI*, (J. Verr.), Rev. et Mag. Zool. 1867 (May), p. 173, t. 15, ♂ adult., "découverte dans le nord de la Chine."

Crown, chin, throat, spot on the parotic region, and a detached stripe on each side of the lower part of the neck, metallic violet. Remainder of head, neck, back, and scapulars deep red, becoming lighter on the breast at its lower part, where it merges into a yellow tint, which colours the rest of the under parts as well as the uropygium. Tail long, tipped with whitish, most apparent on the underside. Middle rectrices twice the length of the others, and, with the upper tail-coverts, metallic steel-colour. M. Verreaux observes that the whitish edgings of the outer rectrices distinguish this bird from all the known species of *Æthopyga*. There must be some mistake about its habitat; Cochin China is probably intended. Mr. Anderson has lately obtained this species in Yunan.

20. *ÆTHOPYGA GOULDÆ*, (Vigors), P. Z. S. 1831, p. 44, ♂ adult., "Himalayas."

Cinnyris gouldie, Vigors, Gould, Cent. Him. Birds, t. 56.

Hab. Himalayas, from Kumaon to Sikim, Assam, Sylhet, Arracan (Jerdon); Kotegurgh in winter, Tranda, Gaora (Stoliczka).

21. *ÆTHOPYGA NIPALENSIS*, (Hodgs.), Ind. Rev. ii. p. 273, ♂, ♀, "Nipaul" (1837).

Nectarinia nipalensis, Hodgk., Jard., Nat. Lib. xxxvi. pp. 236, 268, t. 27.

Hab. Eastern Himalaya from Nipaul to Bootan; common in Kassiah Hills and at Darjeeling (Jerdon, B. Ind. i. p. 366).

22. *ÆTHOPYGA HORSFIELDI*, (Blyth), J. A. S. B. xi. p. 107 (1842); descr. *op. cit.* xii. p. 975, ♂, "Himalayas" (1843).

Hab. North-Western Himalayas (Jerdon); Mussoorie (Blyth, *op. cit.* xvi. p. 472).

Differs chiefly from *Æ. nipalensis*, by having the back green instead of red, a somewhat doubtful character. Mr. Gould (Birds of Asia, pl. 2, 1850) is of opinion that the green plumage of the back indicates immaturity (*cf.* Jerd. B. Ind. i. p. 367).

23. *ÆTHOPYGA IGNICAUDA*, (Hodgk.), Ind. Rev. ii. p. 273, ♂ ♀, "Nipaul" (1837), descr. orig.

Cinnyris rubicaudata, Blyth, J. A. S. B. xi. p. 192, ♂ adult., Darjeeling (1842); descr. *op. cit.* xii. p. 972 (1843).

Nectarinia phænicura, Jard., Nat. Lib. xxxvi. pp. 242, 270. t. 29. ♂ ♀, "Sylhet" (1842), descr. orig.

Cinnyris epimecurus, Hodgk., J. E. Gray, Zool. Misc. p. 82. ♂, Nipaul (1844), descr. nulla.

Hab. Eastern Himalaya from Nipaul to Bootan, Assam, Sylhet. Spring visitant at Darjeeling (Jerdon).

Hodgson (*l. c.*) states that this, together with the other Nipalese Sun-birds, is not migratory. Of all the *Æthopygæ*, the tail in this species attains the most extended dimensions, measuring in some individuals nearly 5 inches.

24. *ÆTHOPYGA SATURATA*, (Hodgk.), Ind. Rev. ii. p. 273, ♂, "Nipaul" (1837), descr. orig.

Cinnyris assamensis, McClelland, P. Z. S. 1839, p. 167, ♂, "Assam," descr. orig.

Nectarinia hodgsonis, Jard., Nat. Lib. xxxvi. pp. 241, 269, t. 29. ♂, "Nipaul" (1842), descr. orig.

Hab. South-eastern Himalayas, Assam, Sikim (Jerdon).

25. *ÆTHOPYGA CHRISTINÆ*, Swinhoe, Ann. & Mag. Nat. Hist. 4th ser. iv. p. 436, "Mountainous regions of Central Hainan" (1 Dec. 1869). (Plate I. fig. 1.)

One of the most interesting of Mr. Swinhoe's recent discoveries in the Island of Hainan. A representative of *Æ. saturata*, but perfectly distinct.

26. *ÆTHOPYGA EXIMIA*, (Horsf.), Tr. Linn. Soc. xiii. p. 108, ♂ adult., "Java" (1820).

Nectarinia kuhli, Temm. Pl. Col. livr. 63, t. 376. f. 1, 2, ♂, ♀, "Java" (Nov. 12, 1825).

Hab. Java (S. Müller).

This lovely bird appears to be peculiar to Java. It is an *Æthopyga*, but what I may term a transitional form. The prevailing character of the plumage in the male is what is found existing in the females only of the other species. The chin, throat, and upper breast alone are red. The metallic violet markings are confined to a throat-mark shaped like the letter V reversed. It possesses the characteristic yellow lower-back of the group, and the metallic occipital cap. The remainder of the plumage, including the wing-coverts, is dark olive. S. Müller gives an interesting account of this species, which lives at the height of from 8000 to 9000 feet among the mountains and in the extinct craters of Java. It breeds there during May and June, and afterwards descends to the coffee-plantations, and is then to be found in the enclosures of the inhabited districts.

27. *NECTAROPHILA* ZEYLONICA*, (L.), S. N. ed. 12, i. p. 188, no. 23, ♂ adult., "Zeylona" (1766), descr. orig.

Certhia lepida, Sparrm., Mus. Carls. fasc. ii. t. 35, ♂ adult., patr. non indicata (1787), descr. orig.

Le Sucrion, Le Vaill., Ois. d'Afr. vi. p. 172, t. 298. f. 1 (avis composita), "Africa"!

Cinnyris pusillus, Vieill., N. Diet. d'Hist. Nat. xxxi. p. 513 (1819), ex Le Vaill. t. 298, f. 1.

Certhia zeylonica, L., Lath., Ind. Orn. i. p. 285, no. 13.

?*Ceylonese Creeper*, var. A., Lath., Gen. Synop. i. 2. p. 713, patr. non indic., "Mus. Brit.," ♂ juv.?, descr. orig.

* Reichenbach (Nat. Syst. Suppl.) gave this generic title to the species of this group—*Leptocoma*, Cab. (1850-51) (*vide* Reichenb.), having been previously employed in botany. *C. brasiliانا*, Gm., is the type. Links are wanting between it and *N. sperata*, and between *N. sperata* and *N. zeylonica* and *N. minima*.

Certhia zeylonica, L., var. β , Gm., S. N. i. p. 482, no. 29, ex Lath.

Certhia dubia, Shaw, Gen. Zool. viii. 1. p. 204 (1811), ex Lath.

Le Souï-manga brun et blanc, Audeb. & Vieill., Ois. Dor. ii. p. 118, t. 81, "Mus. Brit.," ex Lath.

Cinnyris nigroalbus, Less., Dict. Sc. Nat. vol. 1. p. 6 (1827), ex Audeb. & Vieill. t. 81.

Le Souï-manga à ceinture marron, Audeb. & Vieill., Ois. Dor. ii. p. 37, t. 16, patr. non indic., ♂ adult., descr. orig.

Cinnyris sola, Vieill., N. Diet. d'Hist. Nat. xxxi. p. 512, "Pondicherry," ♂ adult. (1819), descr. orig. (cf. Pucheran, Rev. et Mag. Zool. 1853, p. 483).

Cinnyris solaris, Less., Tr. p. 297, no. 28, ♂ ♀, "Pondicherry, Bengal" (1831), descr. orig. (nec *C. solaris*, Temm.); Less. loc. cit. no. 25 (cf. Puch. tom. cit. p. 488).

Cinnyris lepida, (Sparrm.), Sykes, P.Z.S. 1832, p. 98, no. 132, "Dukhun."

Nectarinia zeylonica, (L.), Jard., Nat. Lib. xxxvi. pp. 213, 261, t. 20, ♂ adult., "India."

?*Certhia currucaria*, L., S. N. ed. 12, i. p. 185, no. 6 (syn. excl.), ♂, "Zeylona" (1766), descr. orig.

Certhia flaviventris, Herm., Obs. Zool. p. 136, ♂ adult., "Tranquebaria" (1804), descr. orig.

?*Certhia citrinella*, Herm., op. cit. p. 137, "Tranquebaria," av. juv. (1804), descr. orig.

?*Anthreptes sperata* (L.), Licht. Nomencl. Av. Mus. Berol. p. 56, "Bengalen."

Hab. India from the extreme south to Bengal, not reaching the Himalayas. Rare in Central India. Not found in North-western Provinces. Extends through Dacca into Assam (Jerdon); Southern Ceylon (Layard); Bombay (Swinhoe).

Le Sucrion, Le Vaill., seems to have been composed of an example of *N. zeylonica* and the breast of *Arachnechthra solaris* (Temm.). We have no means whereby we can positively identify Latham's *Ceylonese Creeper*, var. A. Audebert's plate 81 was apparently drawn from Latham's type. *C. flaviventris*, Herm., is too shortly described to enable us to say, with our imperfect knowledge of the constant characters which distinguish the females and

young males of the two species, whether it belongs to *N. zeylonica* or *A. asiatica*. And the same observation will apply to *C. curru-caria*, L. Old males from Bengal and Maunbhoom are larger than those from Malabar. These again are larger than those from Ceylon. In the northern race the metallic hood seems to descend lower down the nape. In the colouring of the plumage I can discover no difference. A specimen in the British Museum, presented by Mr. Swinhoe, but from an unknown locality, is not only a larger bird, but differs from the examples already mentioned by having the crown of the head and shoulder-coverts coppery green instead of emerald green, the uropygium and upper tail-coverts brilliant blue violet and not bright red violet. Chin and throat-patch dark blue violet, and not bright ruby-violet. These colours were contrasted during bright sun-light.

The comparative dimensions are here given :—

		Rost. a nar.	Al.	Caud.
<i>N. zeylonica</i> (L.),	Ceylon	·5	2·	1·37
„	Maunbhoom	·56	2·12	1·37
„	Brit. Mus.	·56	2·31	1·75

I refrain from giving this form a title until I have been able to examine more examples. Is it the “variety” mentioned by Sir W. Jardine (*l. c.*) as being preserved in Mr. Strickland’s collection*? Perhaps the British-Museum specimen came from Bombay, where Mr. Swinhoe mentions having observed *N. zeylonica* (Ibis, 1864, p. 416). The characters which denote the female and distinguish her from the young male have not been, as yet, absolutely defined. Information on this point, based on dissection,

* [The Strickland collection contains two male specimens which seem to belong to different species, though each is marked in Mr. Strickland’s handwriting “*zeylonica*”; the only other information afforded by the labels is in both cases “India. Mr. Askew, 1839.” In one of these the top of the head, seen against the light, is dark green, but crimson-violet from the light; the throat crimson-violet against the light, but from the light bluish-violet; the rump and upper tail-coverts, seen from the light, are bluish-violet, but against the light the former is crimson-violet. In the other example the top of the head is bright green in both lights; the throat, rump, and upper tail-coverts coppery-violet against the light, but from it crimson-violet. Both specimens are otherwise alike; they are unfortunately in bad condition, the first having lost its bill, and the last its feet.—ED.]

is most desirable; for the affinities of the Sun-birds can be best determined by a study of the females and young. Two distinct phases of plumage are observable in the young or else in the female of this species. The first, in which the general colour above is ashy-brown and underneath bright yellow, but with the chin, throat, and upper breast (that is, the violet and maroon region in the old male) albescent, defining that part from the remainder of the under surface. In this stage the occipital feathers have slightly darker centres, the upper tail-coverts are generally found passing into metallic black, and the rump-feathers sometimes with reddish tips. This phase, I surmise, represents the male of the first year. But it may be also found in the female, to which Dr. Jerdon says it belongs. In the second phase the entire upper plumage is greenish or olive-brown, the lower uniform light yellow. This I suspect to be the female livery. In both, the outer edgings of the quills above are ferruginous brown—a characteristic alone sufficient to distinguish this species from the females or young of all the even-tailed Asiatic Sun-birds I have examined. It may, perhaps, be found in *N. minima*, (Sykes). This second phase, which I attribute to the female, agrees perfectly with the Linnæan diagnosis of *C. currucaia*.

28. *NECTAROPHILA MINIMA*, (Sykes), P. Z. S. 1832, p. 98, ♂ ♀, "Deccan."

Nectarinia minuta, (Sykes) (*errore*), Jard., Nat. Lib. xxxvi. pp. 224, 265, tab. in titul., "Malabar," ♂, ♀ (?).

Hab. Deccan, "only in the dense woods of the Ghauts" (Sykes); Malabar; "high forest jungle, west coast, from about lat. 18° N. to Travancore, slopes of Neilgherries up to 3000 feet" (Jerdon); Northern Ceylon (Layard, Ann. Nat. Hist. 2 ser., xii. p. 175).

This is an exceedingly rare species in collections. Two of Colonel Sykes's types are preserved in the British, and one in the East-India Museum. It is well marked, and, though closely allied to *N. zeylonica*, differs by being smaller than even Ceylon examples of that species (bill .43, wing 1.81, tail 1.25), by the upper and non-metallic plumage of the breast being deep red, and by having the metallic feathers of the lower-back and of the upper

tail-coverts of a lighter shade of red-violet. It appears likewise not to have metallic shoulder-coverts.

If we may rely upon the authorities, the female retains a considerable resemblance to the male. According to Colonel Sykes, the female is uniform brown, with a patch of brick-red on the rump and upper tail-coverts, and the yellow below fainter than in the male. Sir William Jardine describes and figures the female above without a coronal patch; head, neck, and mantle yellowish oil-green; the lesser coverts, lower-back, and upper tail-coverts of the same colour as the male, but with a slight tinge of varying bluish purple; wings and tail umber-brown; lower parts entirely dark primrose-yellow. Dr. Jerdon says, "the female is olive-brown above, with a red rump, and pale yellow beneath." Nothing analogous is to be met with in any other of the Eastern Sun-birds; and considering how seldom this species has been observed, may we not conjecture that young males have been mistaken for females?

29. *NECTAROPHILA BRASILIANA*, (Gm.), S. N. i. p. 474, no. 41, "Brasilia"! ♂ adult. (1788), ex Briss. no. 30.

Le Grimpereau violet du Brésil, Briss. Orn. iii. p. 661, no. 30, "Brasilia," ♂ adult., descr. orig.

Nectarinia hasseltii, Temm., Pl. Col. livr. 63, t. 376. f. 3, ♂ adult., "Java" (Nov. 12, 1825), descr. orig.; S. Müller & Schl., Verh. Nat. Gesch. Ned. Overz. Bez. Zool. Aves, p. 59, t. 10. f. 5, ♀; Jard., Nat. Lib. xxxvi. pp. 218, 262, t. 12, ♂ adult., "East-India Islands."

Certhia sperata, L., Raffles, Tr. Linn. Soc. xiii. p. 298, "Sumatra."

Cinnyris ruber, Less., Tr. d'Orn. p. 296, no. 23, ♂ adult., "patr. incert." (1831), descr. orig. (*fide* Pucheran, Rev. et Mag. Zool. 1853, p. 487).

Nectarinia phayrei, Blyth, J. A. S. B. xii. p. 1008, ♀ adult., "Arracan" (1843), descr. orig.

Senegal Creeper, var. A, Lath., Gen. Hist. iv. p. 237. no. 25, "Malacca."

Hab. Java, Sumatra, Borneo (S. Müller); Pinang, Malacca, Arracan (Moore); Moulmein (Beavan); Banjermassing (Selater).

Mr. Moore has a remark on Müller's figure of the female of this species (Cat. Mus. E. I. C. ii. p. 740). Lesson's type-specimen existed in 1853 in the Paris Museum, and (*fide* Pucheran, *l. c.*) was brought from Sumatra by Duvaucel in September 1821. Thus the Sumatran, Javan, and Arracanese race have each had a separate title conferred on them. They do not differ specifically.

30. NECTAROPHILA GRAYI (Wallace), P. Z. S. 1861, p. 479, "Menado." (Plate I. fig. 2.)

A representative form of *N. brasiliana*, apparently restricted to Celebes. Of the five species of *Nectariniæ* recorded as inhabiting that interesting island, three belong to Indo-Malayan genera, one to the widely-spread genus *Arachnechthra*, and one to the Austro-Malayan group *Chalcostetha*. Three species are peculiar to Celebes, two of which, *Æ. flavostriata* and *N. grayi*, possess Indo-Malayan, and the other, *Chalcostetha porphyrolama*, Austro-Malayan affinities. One of the foreign species, *A. malaccensis*, is an Indo-Malayan form; the other, *A. frenata*, is a widely-diffused Australian species.

Mr. Wallace possesses an example of what appears to be the young male of a sixth species from Celebes. It has the edgings of the quill-feathers and most part of the upper surface of the rectrices dull red.

31. NECTAROPHILA SPERATA, (L.), S. N. ed. xii. p. 186, no. 13, "Philippines" (1766), ex Briss. no. 27.

Certhia philippensis purpurea, Briss., Orn. iii. p. 655, no. 27, t. 31. f. 2 ♂, 3 ♀, "Ins. Philippines." (1760), descr. orig.

Grimpereau des Philippines, Buff., Pl. Enl. t. 246. f. 1 ♂, 2 ♀.

Certhia jugularis, P. L. S. Müller, Natursyst. Anhang, p. 98, no. 29 (1776), ex Buff.

Troisième Grimpereau de l'Isle de Luçon, Sonn., Voy. Nouv. Guin. p. 63, t. 30, f. D, ♂ adult., descr. orig.

Certhia chalybea, Scop., Fl. et Faun. Insub. ii. p. 91, no. 68 (1786), ex Sonn. t. 30. f. D.

Certhia sperata, L., var. β , Gm., S. N. i. p. 477, no. 13, ex Sonn.; var. γ , Lath., Ind. Orn. i. p. 283, no. 8, ex Gm.

Le Souï-manga à gorge violette, Audeb. & Vieill., Ois. Dor. ii. p. 56, t. 32, ♂ adult., ex Sonn.

Certhia affinis, Shaw, Gen. Zool. viii. i. p. 208 (1811), ex Audeb. & Vieill. t. 32.

Nectarinia coccinogastra, Temm., Pl. Col. livr. 65, t. 388. f. 3, ♀ adult., "Manilla" (May 27, 1826), descr. orig.

Nectarinia philippensis (part.), Meyen, Reise, Zool. p. 206 (1834).

Certhia zeylonica, L., ap. Meyen, l. c. ♂ adult., "Manilla," nec L.

Nectarinia affinis, (Shaw), Jard., Nat. Lib. xxxvi. pp. 216, 262, t. 20, ♂ adult., "patr. incert."

Anthreptes expectata, Licht., Nomencl. Av. Mus. Berol. p. 56, "Manilla" (1854).

Nectarinia coccineogastra, Temm., Von Martens, J. für Orn. 1866, p. 12, no. 48; *Id.*, Preuss. Exped. Ost-Asien, p. 189.

Hab. Luzon (Von Martens).

Specimens, of both sexes, brought to France from the Philippines by Poivre, enabled Brisson to describe the species which Linnæus named *Certhia sperata*. Brisson described the crown as of a metallic-violet colour; Sonnerat, from specimens obtained by himself, recorded that part as being metallic-green; and Temminck used expressions, when describing the varying hues of this beautiful species, which convey a meaning slightly differing from that transmitted by the two older authors. Setting aside the extreme improbability of three closely allied yet distinct species of this isolated form coexisting at Manilla, it seems pretty clear that the slight discrepancies to be found on comparing the original descriptions result from the difficulty of noting the iridescent hues of metallic plumage. Violet and green are frequently interchangeable, according to the light, as, for instance, in the dorsal plumage of *A. malaccensis*, (Scop.). Reichenbach, however, enumerates *C. sperata*, L., *C. affinis*, Shaw, and *N. coccinogastra*, Temm., as three distinct species (Handb. Spec. Orn. nos. 651, 652, 653)*.

* *Certhia aurantia*, Gm. (ex Lath. G. Synop. i. ii. p. 724, no. 38), brought from Africa by Smeathman, and suggested by Shaw (Gen. Zool. vii. p. 207) to be a variety of *C. sperata*, L., can be nothing else than *Certhia crocata*, Shaw & Nodder (Vivar. Nat. vi. t. 210), i. e. *C. violacea*, L.

32. *CHALCOSTETHA INSIGNIS*, (Jard.), Nat. Lib. xxxvi. p. 274 (1842), ex Temm. Pl. Col. 258, f. 3.

Nectarinia pectoralis, Temm., Pl. Col. livr. 23. t. 258. f. 3, "Java," ♂ adult., descr. orig. (July 26, 1823); Müller & Schl., Verh. Nat. Gesch. Ned. Overz. Bez. Zool. Aves, p. 57, t. 9, f. 2, ♀, nest and egg.

Nectarinia calcostetha (Jard.), *op. cit.* p. 263, "E. Ind. Islands?," ♂, descr. orig. (1842).

Cinnypis macklotii, Bp., Consp. Av. i. p. 408, sp. 44, p. 850 (1850), ex Temm., t. 258, f. 3.

Chalcostetha pectoralis (Temm.), Cab. Mus. Hein. i. p. 103.

Nectarinia insignis, Gould, P. Z. S. 1865, p. 663, ♂, "Penang," descr. orig.

Nectarinia eximia, Horsf., apud Temminck, *l. c.* (nec Horsf.).

Hab. Sumatra, Java (Müller); Pinang (Gould); Malacca (Mus. nostr.); Siam? (Mus. Brit.); Banjermassing (Sclater).

First described and figured by Temminck (1823) under the title of *N. pectoralis*, already employed by Horsfield for another species. Sir W. Jardine (1842) therefore proposed for it the title of *N. insignis*, having in the same work (Nat. Lib.) already described an actual example of Temminck's species under the title of *N. calcostetha* (*cf.* J. A. S. B. 1843, p. 969, note). This specific title Dr. Cabanis (1850-51) raised to generic rank and restored Temminck's original specific name of *pectoralis*. Bonaparte (1850), however, rejected Temminck's designation and proposed that of *macklotii*. Finally Mr. Gould (1865) described a Penang example as new under one of the titles already published by Sir W. Jardine. As Dr. Cabanis seems to be justified in generically separating the group to which this Sun-bird most nearly belongs, the name of *insignis*, Jard., takes precedence. S. Müller (*l. c.*) gives a most interesting account of the habits. We have no positive proof that the alleged Malaccan examples are not in truth of Sumatran origin.

This species forms a link between *Arachnechthra* and the Austro-Malayan species which constitute the genus *Chalcostetha*, Cab. Though the type of Dr. Cabanis's genus, it is, strictly speaking, an aberrant form of that group, more nearly affined, however, to *C. aspasia*, *C. proserpina*, and others, than to *A.*

asiatica and its congeners. The yellow axillaries are the principal character which indicates its affinity to *Arachnechthra*.

Certhia manillensis, Gm. (S. N. i. p. 471. no. 32, the diagnosis of which is taken, but unacknowledged, from Montbeillard, Hist. Nat. Ois. v. p. 496, ex Luçon), belongs either to this species or else to one not since recognized from Luzon. The French author having described *Le Souï-manga* (*C. souimanga*, Gm.), remarks:—"On doit rapporter à cette espèce, comme variété très-prochaine, le Souï-manga de l'isle de Luçon que j'ai vu dans le beau cabinet de M. Mauduit, et qui a la gorge, le cou et la poitrine couleur d'acier poli, avec des reflets verts, bleus, violets, etc., et plusieurs colliers que le jeu brillant de ces reflets paroît multiplier encore; il semble cependant que l'on en distingue quatre plus constans, l'inférieur violet-noirâtre, le suivant marron, puis un brun, et enfin un jaune; il y a deux taches de cette couleur au-dessous des épaules; le reste du dessous du corps, gris-olivâtre; le dessus du corps, vert-foncé avec des reflets bleus, violets, etc., les penes des ailes, les penes et couvertures supérieures de la queue, d'un brun plus ou moins foncé, avec un œil verdâtre." Were it not for the alleged Philippine origin, I should not hesitate to refer *C. insignis*, (Jard.) to *C. manillensis*, Gm.

33. *CHALCOSTETHA ASPASIA*, (Less.), Voy. Coq. Zool. i. p. 676, no. 100, t. 30. f. 4, "Dorey" (New Guinea), ♂ adult. (1826).

Cinnigris sericeus, Less., Dict. Sc. Nat. l. p. 21, "Dorey" (1827), ex Less. Voy. Coq. t. 30. f. 3 (*errore*).

Hermotimia aspasia (Less.), Reichenb. Handb. p. 285, no. 661.

Hab. Celebes, Amboyna, Banda Islands, New Guinea (S. Müller); New Guinea, Waigiou, Mysol, Aru (Wallace, *vide* Gray).

Müller mentions having obtained this species at Macassar (*op. cit.* Aves, p. 58). I do not find it given from Celebes in any of Mr. Wallace's lists. It is therefore probable that Müller did not notice the characters discriminated by Mr. Wallace in the nearly allied species *C. porphyrolæma*. Again, by including Amboyna within its range, Müller seems not to have recognized the specific differences of *C. aspasioides* (G. R.

Gray). Lesson, in his description of *C. sericeus*, quotes the number of the figure which represents *A. zenobia*.

A young male from Mysol in my collection is not to be distinguished from the specimen, described further on, of *C. auriceps*. But it has only put on two metallic shoulder-coverts, and two of the neck-stripe plumes, and that on one side only. One of the dorsal feathers is tipped with metallic-green. On the habits of this species, consult Müller (*l. c.*).

34. *CHALCOSTETHA ASPASIOIDES*, (G. R. Gray), P. Z. S. 1860, p. 349, "Amboyna."

A species doubtfully separable from *C. aspasia*.

35. *CHALCOSTETHA PORPHYROLEMA*, (Wallace), P. Z. S. 1865, p. 479, "Macassar."

The violet-purple throat at once distinguishes this species from *C. aspasia*.

36. *CHALCOSTETHA PROSERPINA*, (Wallace), P. Z. S. 1863, p. 32, ♂ ♀, "Bouru."

A larger bird than *C. aspasia*, the middle and greater wing-coverts not metallic, but otherwise exactly like it. A Bouru example marked a female, in my collection, presents no features (its larger dimensions excepted) whereby it can be distinguished from the young male of *C. aspasia* already noticed, beyond that the tail is dull brown, and not black, and wants all traces of a silky or metallic gloss. This, as far as my investigations permit me to state an opinion, is a characteristic of the female in some, if not in all, of the Eastern Sun-birds.

37. *CHALCOSTETHA AURICEPS*, (G. R. Gray), P. Z. S. 1860, p. 348, "Batchian, Ternate."

Hab. Sula Islands, Batchian, Gilolo (Wallace).

This species is to be readily distinguished from the four last by the top of the head being bright golden green; otherwise it is closely allied. An example of a female (so marked by Mr. Wallace) in my collection, from Ternate, is above cinereous-brown, washed with olive-green on the dorsal region. Occipital feathers with pale cinereous edgings. Cheeks, chin, throat, and upper part of breast greyish-white; remainder of

under surface pale yellow. Wings brown, coverts olive-green, and quills edged with that colour. Rectrices black, with a faint blue gloss, the three outer pairs tipped with dirty white. A young male putting on the perfect plumage, in my collection, from Gilolo, resembles the female, but is darker in all its hues; it has already assumed a frontal patch of pure golden-green. The rectrices of the young bird are still retained, and, as in the adult female, the three outer pairs are tipped with white. The upper tail-coverts are metallic-blue. A new bright shoulder-covert or two has appeared; and a bright metallic-blue line descends from each angle of the mouth, the first indication of the glistening gorget of the perfect male. I mention these details, as I feel persuaded that by a study of the phases of plumage the young males of the *Nectariniæ* pass through before reaching maturity, we shall be able to predicate with some certainty the relative age of each species in the world's history. Even with the imperfect knowledge at our command, it may, I venture to think, be safely assumed that the males of the original species from which all the Sun-birds are descended were plainly-coloured, like the females and young of the present time; and it can be shown, in one or two instances at least, that the perfect plumage of one species represents a phase of imperfect plumage in another.

38. *ANTHREPTES MALACCENSIS*, (Scop.), Del. Fl. et Faun. Insub. ii. p. 90, no. 62, ex Sonn. (1786).

Le Grimpereau de Malacca, Sonn., Voy. Ind. ii. p. 209, t. 116.* f. 1, ♂, descr. orig.

Nectarinia javanica, Horsf., Tr. Linn. Soc. xiii. p. 167, "Java," (1822), descr. orig.

* The *Grimpereau gris de la Chine* of the next Plate (117)—*Certhia grisea*, Scop. (ex Sonn.), and also, but independently of Latham (ex Sonn., *C. tæniata*, Shaw, ex Sonn., and *Dicaeum flavipes*, Vieill., ex Sonn.), is a *Prinia*, with ten rectrices, and agrees with *Prinia sonitans*, Swinhoe (Ibis, 1860, p. 50, from "Amoy and Foochow"); and I may here mention that *C. parietum*, Lath. (Ind. Orn. i. p. 298, no. 58, 1790, founded on Sonnerat's *Rossignol de muraille des Indes*, op. cit. p. 208), seems to be *Phanicura supercilialis*, Jerd. olim, the South-Indian race of *Larvivora cyanea*, Hodgk., from which it is specifically separable.

Certhia lepidus, Sparrm., ap. Lath. Ind. Orn. i. p. 298, no. 60, ex Sonn. (nec Sparrm.).

Nectarinia lepidus, (Lath.), Temm. Pl. Col. livr. xxi. t. 126, f. 1, 2, ♂ ♀, "Java."

Cinnyris lepidus, (Lath.), Vieill., Galerie, i. p. 291, t. 177.

C. javanica, Horsf., Swains., Zool. Illus. 1st ser. iii. t. 121.

Anthreptes lepidus, (Lath.), Wallace, P. Z. S. 1862, p. 343, "Sula Islands, Celebes."

Cinnyris lepidus, Lesson, Manuel, ii. pp. 33 & 58.

C. ruficollis, Vieill., Enc. Méth. Ois. p. 600, "Les Grandes Indes," ♂ adult. (1823), descr. orig.

Hab. Java, Sumatra, Borneo, Malacca (S. Müller); Celebes (Müller, Wallace); Sula Islands, "does not reach the Moluccas" (Wallace); Arracan, Tenasserim (Blyth); Labuan (Motley and Dillwyn); Banjermassing (Schlater, P. Z. S. 1863, p. 220); Flores (Wallace); Siam (Gould, P. Z. S. 1859, p. 151); Cambodia (Mus. nostr. ♀).

Banjermassing, Flores, Malaccan, and Javan examples in my collection in no way differ. The bird figured by Temminck as the female I believe to have been a young male. The female seems to have the entire under surface of an uniform tint of yellow; whereas in the young male, whether with or without indications of the metallic plumage, the chin, throat, and upper breast are dirty white, contrasting with the clean greenish-yellow of the remainder of the lower plumage. These phases of plumage are analogous to what are found in *N. zeylonica*.

39. *CHALCOPARIA SINGALENSIS*, (Gm.), S. N. i. p. 964, no. 86, 1788, ex Brown; Walden, P. Z. S. 1866, p. 543.

Green Warbler, Brown, Zool. Ill. p. 82, t. 32. f. 2, descr. orig.

Certhia lepidus, Sparrm., var. β , Lath. Ind. Orn. i. p. 298, no. 60, ex Syn. Supp. i. p. 131, sect. 2, "Malacca," descr. orig.

Nectarinia phœnicotis, Temm., Pl. Col. livr. xviii. t. 108. f. 1, ♂, "Java, Sumatra" (May 22, 1824); *op. cit.* livr. lxxv. t. 388. f. 2, ♀ (?); S. Müller & Schl., Verh. Nat. Gesch. Ned. Overz. Bez. Zool. Aves, p. 63.

Anthreptes rectirostris, (Shaw), Blyth, Journ. Asiat. Soc. Beng. x. p. 925, "Moulmein."

Anthreptes phœnicotis, Blyth, *op. cit.* xii. p. 979, "Tenasserim" (1843), descr. orig.

Chalcoparia cingalensis, (Gm.), Cab., Mus. Hein. i. p. 103, note.

Hab. Sumatra, Java, Borneo (Müller); Labuan (Motley and Dillwyn); Banjermassing (Selater); Moulmein (Walden); Tippera, Arracan (Blyth); Malacca (Moore).

Mr. Wallace informs me that this species has the tongue short, triangular, horny at the tip, and entire.

The following species, recorded as inhabiting the East, I am unable to identify:—

Certhia pusilla, L., S. N. ed. 12, i. p. 185, no. 3, ex Edwards, Nat. Hist. i. p. 26, t. 26. The type was brought from Holland preserved in spirits, and was said to have been sent from the East Indies. Seemingly a female or young male of an *Arachnechthra*.

The next three titles were given by Gmelin to species described by Brisson from the plates of Seba. Like most of Seba's figures they defy even approximate identification.

Certhia macassariensis, Gm., S. N. p. 480, no. 48; *Polytmus indicus*, Briss., Orn. iii. p. 675, no. 6, ex Seba, Thes. i. p. 100, t. 63, f. 3, "Bali et Macassar," descr. orig. Perhaps founded on a species of *Chalcostetha*.

Certhia indica, Gm., l. c. no. 49; *Polytmus cæruleus indicus*, Briss., *tom. cit.* p. 682, no. 10, ex Seba, Thes. ii. p. 20, t. 19, f. 2, "*Avis colubris orientalis*," descr. orig. Deep blue, throat white, bill yellow, tongue bifid.

Certhia amboinensis, Gm., l. c. no. 50; *Polytmus amboinensis*, Briss., *tom. cit.* p. 685, no. 12, ex Seba, Thes. ii. p. 62, t. 62, f. 2, Dark green; bill and under wing-coverts yellow; throat and breast red. Seemingly taken from Valentyn*, whose works I have not been able to consult.

Cinnyris leucogaster, Vieill., Nouv. Dict. d'Hist. Nat. xxxi. p. 515, "Timor" (1819), described from a specimen said to have been brought by Maugé from Timor. Dr. Pucheran (Rev. et Mag. de Zool. 1853, pp. 484–487) identified the type, then existing in the Paris Museum, with *Cinnyris thoracicus*, Less. (Tr. d'Orn. p. 297, 1831), the same individual having been described by both

* Oud en nieuw Oost-Indien, etc. (Dordrecht and Amsterdam: 1724–26).

authors. Lesson's account differs widely from that given by Vieillot; but neither agrees with any *Nectarinia* since discovered in Timor or other eastern locality. Dr. Pucheran in this instance does not assist us. It seems to be a good species, with yellow pectoral tufts, allied to *Chalcostetha insignis* (Jard.).

Cinnyris subflavus, Vieill., *tom. cit.* p. 494, "l'Inde" (1819). The type is no longer extant (*fide* Pucheran, *tom. cit.* p. 485). Apparently an *Æthopyga* of the subsection represented by *Æ. gouldiæ*, if not that bird itself.

Two species, *N. amasia* and *N. eximia*, are included by Mr. G. R. Gray in his lists of the birds of New Guinea and its Islands (P. Z. S. 1858, p. 190; 1861, p. 433) as inhabitants of New Guinea. I have failed in tracing the species to which the title *amasia* refers. Mr. G. R. Gray quotes no author; and Dr. O. Finsch (Neu-Guinea, p. 163)*, who attributes the title to Lesson, gives no reference. *N. eximia* is probably Temminck's species—*A. pectoralis* (Horsf.)—and has crept into the Tables by oversight.

Cinnyris eques, Less., has been generically separated both by its discoverer and by Reichenbach, from the true Sun-birds. The last author having taken it out of Lesson's incongruous genus *Phylidonyris* (Tr. d'Orn. p. 299, 1831) made it the type of his genus *Cosmeteira* (Nat. Syst. i. Supp.; Handb. p. 283, 1853). Lesson obtained his type-specimen in Waigiou. On comparing examples from Mysol a very considerable difference in the dimensions is found.

	Rostr. a nar.	Longitudo		
		Alæ.	Caudæ.	Tarsi.
Waigiou	·63	2·75	2·5	·75
Mysol	·48	2·25	1·75	·66

The tarsus in the Mysol species is not much shorter than in that of Waigiou, but is less robust. The colouring of the plumage only differs in being paler. I propose the title of *COSMETEIRA MINIMA* for this species.

This imperfect sketch of the eastern Sun-birds I shall con-

* Of the twenty species referred to *Nectarinia* by Dr. O. Finsch (*l. c.*) at least nine belong to the genus *Myzomela*. Dr. Finsch's Table of distribution, in other respects, requires revision.

clude with a Table showing those which were described by Linnæus and Gmelin. In the Twelfth Edition of the 'Systema Naturæ' (1766) we find the following :—

1. *Certhia* (*Arachnechthra*?) *PUSILLA*, "India," ex Edwards, ♀ vel ♂ juv. = — ?
2. *C.* (*Nectarophila*?) *CURRUCARIA*, "Zeylona," descr. orig. = *C. zeylonica*, L., ♀ vel ♂ juv. (?).
3. *C.* (*Arachnechthra*) *JUGULARIS*, "in Philippinis," ex Briss., ♂ adolescens.
4. *C.* (*Nectarophila*) *SPERATA*, "in Philippinis," ex Briss., ♂ adult.
5. *C.* (*Arachnechthra*?) *philippina*, "in Philippinis," ex Briss. = *C. JUGULARIS*, L., ♂ vel ♀ juv. (?).
6. *C.* (*Nectarophila*) *ZEYLONICA*, "Zeylona," ♂ adult., descr. orig.
7. *C.* (*Arachnechthra*) *LOTENIA*, "Zeylona," ♂ adult., descr. orig.

The following species were added by Gmelin in the Thirteenth Edition (1788) :—

1. *C.* (*Arachnechthra*?) *falcata*, ex Lath., patr. non indicat. = *C. LOTENIA*, L. (?).
2. *C.* (*Chalcostetha*?) *MANILLENSIS*, "Manilla," ex Montb. = *Nectarinia insignis*, Jard. (?).
3. *C.* (*Nectarophila*) *BRASILIANA*, "Brasilia"! ex Briss. = *Nectarinia hasseltii*, Temm.
4. *C. sperata*, L., var. β , ex Sonn. = *C. SPERATA*, L.
5. *C.* (—) ? *macassariensis*, "Baly et Macassar," ex Seba. = — ?
6. *C.* (—) ? *indica*, "India," ex Seba. = — ?
7. *C.* (—) ? *amboinensis*, "Amboina," ex Seba. = — ?
8. *C. zeylonica*, L., var. β , "Ins. Philippin." ex Lath., Syn. ii. p. 715, no. 13, var. A. = *C. ZEYLONICA*, L., ♂ adolesc. (?).
9. *C.* (*Arachnechthra*) *omnicolor*, "Zeylon," ex Seba. = *C. LOTENIA*, L.
10. *Motacilla* (*Chalcoparia*) *SINGALENSIS*, "Zeylon"! ex Brown.



Keulemans.lith

M & N Hanhart imp

Fig 1 ÆTHOPYGA CHRISTINEÆ
2 NECTAROPHILA GRAYI.